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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/523,105

11/23/2005

John Claude Husband

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04/13/2009

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EXAMINER

PAK, HANNAH J

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

04/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/523,105	Applicant(s) HUSBAND ET AL.	
	Examiner Hannah Pak	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39-41, 43, 45, 47-50, 54, 56, 57, 68 and 79-109 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 39-41, 43, 45, 47-50, 54, 56, 57, 68 and 79-109 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/17/2009 has been entered.
2. All outstanding rejections, except for those maintained below, are withdrawn in light of applicant's amendment filed on 03/17/2009.
3. The text of those actions of Title 35, U.S. Code not included in this action can be found in a prior office action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 39-40, 43, 45, 47-48, 54, 56, 57, 68, 80-81, 83-85, 88-90, 92, 98, and 103-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 6,087,404).

Brown et al. disclose a process for preparing a concentrated aqueous suspension of finely ground particulate material suitable for a paper coating composition (Col. 2, lines 23-26 and Col. 3, lines 10-14). The process comprises (A) preparing an aqueous suspension containing particulate material in particulate form, (B) grinding the formed suspension in the presence of a polycarboxylate dispersing agent for the particulate material, and (C) adding further dispersing agent to the suspension of ground material (Col. 2, lines 27-35). Steps (A) and (B) may be combined so that the aqueous suspension is formed in situ at the single grinding chamber or at the first grinding stage (Col. 5, lines 20-24). If appropriate, the suspension of ground material is dewatered (Col. 2, lines 39-40). The particulate material used is a calcium carbonate (Col. 5, lines 10-13). The dispersing agents used each comprise a polyacrylate (Col. 12, lines 24-26).

Brown et al. do not specifically mention using a sub-effective amount of dispersants. They also do not mention the specific amount of inorganic particulate material.

However, Brown et al. teach employing at least 0.05%-1.0% by weight of dispersants, based upon the weight of dry particulate inorganic material (Col. 8, lines 4-10), which is defined by the specification and the claims as "a sub-effective amount." The amount of dispersants taught by Brown et al. overlaps with those claimed. Moreover, Brown et al. teach using at least 20% by weight of particulate inorganic material (Col. 2, lines 27-28 and Col. 3, lines 13-15), which also overlaps with those claimed.

Therefore, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the invention was made, since it has been held that choosing the over lapping portion, of the ranges taught by Brown et al. and the ranges claimed by the applicant, has been held to be a *prima facie* case of obviousness, see *MPEP* § 2144.05.

Regarding the steepness factor recited in claims 54, 56-57, and 88-90, Brown et al. teach calcium carbonate in the aqueous suspension having an equivalent spherical diameter (Col. 5, lines 5-10), and according to page 2 of the specification, a steepness factor is defined as the ratio of the d_{30} equivalent spherical diameter (at which 30% of the particles are finer) to d_{70} (at which 70% of the particles are finer) equivalent spherical diameter. Therefore, selection of optimal proportion of the steepness factor of the calcium carbonate in the aqueous suspension is well within the skill of one ordinary in the art, see *also MPEP* § 2144.05, *IIB*.

5. Claims 49-50 and 86-87 rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 6,087,404) as applied to claims 39-40, 43, 45, 47-48, 54, 56, 57, 68, 80-81, 83-85, 88-90, 92, 98, and 103-109 above, and further in view of Skuse et al. (US 6,315,867).

The disclosure with respect to Brown et al. in paragraph 4 is incorporated here by reference. They do not specifically mention using hexametaphosphate as a dispersant.

However, Skuse et al. teach employing hexmetaphosphate as a dispersing agent in a method of dispersing a solid particulate material in an aqueous medium suitable for use as paper coating compositions (Col. 1, lines 65-67 and Col. 2, lines 44-65).

Given the above teachings, it would have been obvious to use the hexmetaphosphate taught by Skuse et al. as the dispersing agents for the aqueous suspension of Brown et al. useful for paper coating compositions.

6. Claims 41, 82, 93-97 and 99-102 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 6,087,404) as applied to claims 39-40, 43, 45, 47-48, 54, 56, 57, 68, 80-81, 83-85, 88-90, 92, 98, and 103-109 above, and further in view of Wesley (US 2002/0117085) and Admitted Prior Art (Pages 8-9 of the specification).

The disclosure with respect to Brown et al. in paragraph 4 is incorporated here by reference. They do not mention employing other types of inorganic particulate material, such as kaolin, useful for other various applications, such as ceramic, paint, and rubber.

However, Wesley discloses using well-known particulate mineral materials, such as kaolin, having improved properties and useful for a variety of applications, including fillers, and extenders for paints (films), plastics, polymers, paper making and paper coating (Paragraphs 1-3). Wesley also discloses the steepness factor of the particulate mineral (Paragraph 21).

In addition, the applicants acknowledge on pages 8-9 of the specification that the obtained particulate material may be used as a coating or filler for a wide variety of applications, including plastics, films, sealants or mastics, and ceramics.

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Given the above teachings, it would have been obvious to one of ordinary skill in the art to employ commercially available kaolin particles as fillers or extenders in various industrial products.

7. Claims 79 and 91 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al. (US 6,087,404) as applied to claims 39-40, 43, 45, 47-48, 54, 56, 57, 68, 80-81, 83-85, 88-90, 92, 98, and 103-109 above, and further in view of Leighton et al. (US 4,915,845).

The disclosure with respect to Brown et al. in paragraph 4 is incorporated here by reference. They do not mention using their dispersant as a corrosion inhibitor in the aqueous suspension of inorganic particulate material.

However, Leighton et al. teach dispersants having corrosion inhibition to maintain water contaminates in a dispersed state under a wide range of process conditions (Col. 1, lines 50-55).

Given the above teaching, it would have been obvious to one of ordinary skill in the art to employ dispersants having corrosion inhibition as taught by Leighton et al. in the aqueous suspension disclosed by Brown et al. to maintain water contaminates in a dispersed state under a wide range of process conditions.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hannah Pak whose telephone number is (571) 270-

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5456. The examiner can normally be reached on Monday - alternating Fridays (7:30 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hannah Pak
Examiner
Art Unit 1796

/HP/

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796